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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,946

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EXAMINER

PHILIPPE, GIMS S

ART UNIT

PAPER NUMBER

2485

NOTIFICATION DATE

DELIVERY MODE

03/13/2012

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/594,946	<b>Applicant(s)</b> FUJITA ET AL.	
	<b>Examiner</b> GIMS PHILIPPE	<b>Art Unit</b> 2485	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 3,7-11,13 and 15-20 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 17-20 is/are allowed.
- 7) ☒ Claim(s) 3,13,15 and 16 is/are rejected.
- 8) ☒ Claim(s) 7-11 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                          |

***Response to Amendment***

1. Applicant's amendment received on December 28, 2011 in which claims 3, 7-10, 13 and 15-17 were amended, and claims 17-20 were added, has been fully considered and entered, but the arguments are moot in view of the new grounds of rejection.

**Note:** the new grounds of rejection is provided to the applicant in light of a newly found prior art. The examiner previously indicated some allowable subject matter, however, presenting the newly found prior art is necessary in order to advance the prosecution of the application.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raboisson et al. (US Patent no. 5,706,355) in view of Sakurai (US Patent no. 6,829,388).

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As per claims 3 and 15, Raboisson discloses a road view analyzing method and apparatus having a camera mounted on a vehicle to a photograph a view in a front of the vehicle, for analyzing a road view indicating by an image of the view in front of the vehicle photographed by the camera (See Abstract, fig. 2, item 3), the road view analyzing apparatus comprising image dividing means for dividing the image of the view in front of the vehicle photographed into a plurality of areas with lines (See original image of fig. 2, and col. 5, lines 59-65), means for analyzing means for separately analyzing content of the image in each of the plurality of areas, wherein the analyzing means includes: road view analyzing means for applying road analysis processing to an image in a lower area of the plurality of areas (See col. 5, lines 66-67, col. 6, lines 1-8 and lines 43-56), scene analyzing means for applying scene analysis processing to an image in each of the left and right areas of the plurality of areas (See fig. 2 with original image divided into top/bottom and left/right where the scene is the image of the environment taken by the CCD camera as detailed in col. 4, lines 18-30), background analyzing means for applying background analysis processing to an image in an upper area of the plurality of areas (See fig. 2 with original image, and background analyzing means detailed in col. 3, lines 51-55 and col. 4, lines 3-14).

It is noted that Raboisson does not particularly divides the image into areas with diagonal lines as claimed.

However, Raboisson clearly divides the images into 4 areas with top/bottom and left/right areas were such segmentation is used for the same purpose as claimed by the applicant. To the examiner, one skilled in the art at the time of the invention would

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recognize the advantage of dividing the image into areas, and would be motivated to modify Raboisson's image segmentation by dividing the image into a plurality of areas with diagonal lines for the same purpose of identifying possible location of potential obstacles on the road as taught by Raboisson (See col. 7, lines 60-67 and col. 8, lines 1-8).

It is also noted that Raboisson is silent about a portion which recognizes a white line on a road in accordance with the image in the lower area to calculate an approximate straight line of the white line, and a portion which measures a linear distance of the approximate white line, a portion which measures a lane width in accordance with the approximate straight line, and a portion which recognizes a road surface state in accordance with the image in the lower area.

However, Sakurai provides road view analyzing apparatus comprising a portion which recognizes a white line on a road in accordance with the image in the lower area to calculate an approximate straight line of the white line, and a portion which measures a linear distance of the approximate white line, a portion which measures a lane width in accordance with the approximate straight line, and a portion which recognizes a road surface state in accordance with the image in the lower area (See approximate straight line of the white line in Sakurai col. 6, lines 57-67, col. 7, lines 1-4, width measurement of lane in col. 9, lines 10-24, and surface state recognition in col. 9, lines 18-24).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Raboisson's a road view analyzing method and apparatus by incorporating Sakurai's portion which recognizes a

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white line on a road in accordance with the image in the lower area to calculate an approximate straight line of the white line, and a portion which measures a linear distance of the approximate white line, a portion which measures a lane width in accordance with the approximate straight line, and a portion which recognizes a road surface state in accordance with the image in the lower area. The motivation for performing such a modification in Raboisson is to determine whether the road surface is planar in order to avoid big error when the road surface seen within an image range is approximate by a plane as taught by Sakurai (See Sakurai col. 3, lines 17-34; also see Sakurai col. 2, lines 52-67 and col. 3, lines 1-24).

4. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaga et al. (US Patent no. 6191704) in view of Sasaki et al. (US Patent no. 6445809).

Regarding claims 13 and 16, Takenaga discloses a road view analysis method and apparatus having a camera mounted on a vehicle to photograph a view in front of the vehicle, for analyzing a road view indicated by an image of the view in front of the vehicle photographed by the camera (See col. 4, lines 14-33), the road view analyzing apparatus comprising image dividing means for dividing the image of the view in front of the vehicle photographed by the camera into a plurality of areas (See col. 10, lines 50-57), and analyzing means for separately analyzing content of the image in each of the plurality of areas (See col. 6, lines 41-47), wherein the image dividing means applies

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white line recognition to the image of the view in front of the vehicle and sets an area up to a white line in the outermost part by the white line recognition as a road area (See col. 4, lines 34-38 and col. 6, lines 62-65).

It is noted that Takenaga is silent about a road view analysis method and apparatus wherein the image dividing portion calculates a moving distance from an amount of change between the image of the view in front of the vehicle photographed by the camera and an image of a view in front of the vehicle photographed temporally earlier than the image and applies a threshold to the moving distance to obtain sectional areas of a scene area and a background area.

However, Sasaki teaches a road view analysis and method wherein the image dividing portion calculates a moving distance from an amount of change between the image of the view in front of the vehicle photographed by the camera and an image of a view in front of the vehicle photographed temporally earlier than the image and applies a threshold to the moving distance to obtain sectional areas of a scene area and a background area (See Sasaki col. 5, lines 61-67 and col. 6, lines 1-21).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Takenaga's road view analysis method and apparatus by incorporating Sasaki's teachings where the image dividing portion calculates a moving distance from an amount of change between the image of the view in front of the vehicle photographed by the camera and an image of a view in front of the vehicle photographed temporally earlier than the image and applies a

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threshold to the moving distance to obtain sectional areas of a scene area and a background area. The motivation for performing such a modification in Takenaga is to cancel shadow, character and dirt whose optical flow should not be detected, in order to search corresponding point whose optical flow should be detected as taught by Sasaki (See Sasaki col. 6, lines 22-34).

5. Claims 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 17-20 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GIMS PHILIPPE whose telephone number is (571)272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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